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10/588,459	08/04/2006	Alfred Hennemann	MERCK-3198	5758

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EXAMINER	
PARVINI, PEGAH	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
12/07/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@mwzb.com

Office Action Summary	Application No.	Applicant(s)	
	10/588,459	HENNEMANN ET AL.	
	Examiner	Art Unit	
	PEGAH PARVINI	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,7-9,11-15 and 17* is/are pending in the application.

4a) Of the above claim(s) *12-15 and 17* is/are withdrawn from consideration.

5)☒ Claim(s) *3* is/are allowed.

6)☒ Claim(s) *4* is/are rejected.

7)☒ Claim(s) *1,7-9 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 12-15 and 17 have been withdrawn from further examination.

Claim Objections

Claim 7 is objected to under 37 CFR 1.75(c) as being in improper form because said claim depends from a canceled claim, claim 6. See MPEP § 608.01(n). Accordingly, the claim 7 has not been further treated on the merits.

Claims 1, 8-9, and 11 are objected to because of the following informalities: in line 4, an article "a" is missing before "layer of one or more polymers applied". Appropriate correction is required.

Claims 8-9 and 11 are objected as being dependent on an objected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cacace et al. in view of Schauer et al. and further in view of Sollman et al.

Cacace et al. teach colored combination pigments which are based on platy form substrates such as titanium dioxide-coated mica, iron oxide-coated mica or other

substrates wherein said substrates are coated with silane coupling agents such as vinyltriacetoxysilane (Abstract; column 2, lines 44-58; column 4, lines 24-60). Cacace et al., also, disclose that compounds such as metal oxides-coated mica pearlescent pigment treated with a hydrolyzed silane coupling agent or mixture of such agents, as known, act as interface between an organic material and an inorganic material to enhance the affinity between the two (column 4, lines 17-23). It is to be noted that the titanium dioxide-coated mica or iron oxide-coated mica reads on the limitation of substrate being multilayered pigment as recited in claim 4.

Cacace et al., however, is silent to a polymer coating onto the silane.

Schauer et al. teach coating pigment particles with LCST polymers to stabilize the dispersibility of said pigment particles in liquid media, varnishes and the like (Abstract). Schauer et al., further, disclose that LCST coating on particulate or non-particulate substrates can serve a protective coating for underlying coatings containing UV stabilizers, chromophores or luminiscent components (column 4, lines 17-23), therefore, implying that the LCST coating is applied onto other coatings. Additionally, Schauer et al. make it clear that LCST polymer coating can improve the compatibility of the particles with the vehicle or matrix and that such coating provides additional protection against mechanical damage under shear loads such as occur during extrusion (column 2, lines 10-20). Schauer et al., in addition, disclose that LCST polymers are particularly suitable for enveloping particles entirely without influencing the color of the particles themselves (column 1, lines 55-60).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Cacace et al. in order to include a coating of LCST polymer onto the pigment particles of Cacace et al. as that taught by Schauer et al. motivated by the fact that LCST polymer coatings onto pigment particles coating can improve the compatibility of the particles with the vehicle or matrix, and that such coating provides additional protection against mechanical damage under shear loads such as occur during extrusion. Furthermore, such polymer coatings onto pigments would help to stabilize the dispersibility of pigment particles in the liquid media, varnishes and the like. It is to be noted that the pigments taught by Cacace et al. are based on metal oxides-coated mica pearlescent pigments. Applying LCST polymers onto pigments of Cacace et al. is further motivated by the fact that, as that evidenced by Sollman et al., silanes containing hydrolysable groups are known to be useful coupling agents since they function to tightly join two dissimilar material, one typically inorganic which binds to the Si portion of the silane or its derivative siloxane, the other typically organic which usually covalently, sometimes ionically or through mutual compatibility, bonds to the organofunctional portion of the silane. Sollman et al. further states that one industrial area of the use of silane coupling agents is the use of them in enhancing the reinforcement qualities of select inorganic fillers or pigments incorporated into select organic polymer (Sollman et al., column 1, lines 15-28). Therefore, it is apparent that silane coupling agents are known to bond between pigments and polymers.

Response to Amendment

Applicants' amendment to claims 1 and 3, filed August 20, 2009, page 2 is acknowledged. As such the rejection of said claims as generally presented in the previous Office action is hereby withdrawn.

Applicants' amendment to claim 7, filed August 20, 2009, page 3 is acknowledged. However, said amendment does not place the claim in condition for allowance.

Applicants' amendment to claim 4, filed August 20, 2009, page 2 is acknowledged. However, said amendment does not place the claim in condition for allowance as detailed out above.

Allowable Subject Matter

Claim 3 is allowed.

Claims 1, 8-9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-9 and 11 depends on an objected claim.

The following is an examiner's statement of reasons for allowance: The prior art do not disclose or suggest particles having a multilayered structure consisting of substrates selected from the group consisting of SiO_2 particles, TiO_2 particles,

holographic pigments, pearlescent pigments, interference pigments, multilayered pigments and/or BiOCl pigments which is coated with a layer of one or more polymers and a layers of one or more silanes applied thereto. Furthermore, even though the prior art may disclose polymer-coated colored substrate particles which are further covered with silanes, they do not disclose (1) substrates such as those recited in instant claims 1 and 3 and (2) the polymer is not applied in one or more layers onto the substrate but that it is coats color pigments applied onto the substrate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, see pages 5-8, filed August 20, 2009, with respect to claims 1, 3, 8-9 and 11 have been fully considered and are persuasive due to the amendments made to said claims by amending claim 1 to recite "consisting of" and by overcoming the rejection based on Hashizume et al. through persuasive arguments. The rejection of claims 1, 3, 8-9 and 11 has been withdrawn.

Applicants' argument drawn to Cacace et al. reference and combinations using said reference drawn to claims 1 and 3 are moot due to the fact that said reference is no longer used in the rejection of those claims.

Applicant's arguments filed pages 5-6, with reference to claim 4, have been fully considered but they are not persuasive.

Applicants have argued that Cacace et al. disclose substrates coated with a layer of a specific polymer and a specific pigment and additional coating of hydrated aluminum oxide, then further coating of hydrolysable silane; Applicants further, argued that in an embodiment of Cacace et al., silane may be intermingled with the layer of hydrated aluminum oxide or of a combination of said oxide and ceria. Thus, Applicants have concluded that Cacace et al. do not disclose substrates directly coated with a polymer and on the polymer a silane.

The argument is not found persuasive because (1) the recitation of claim 4 does not disclose that there is a coating of polymer directly onto the substrate; in fact, said claim recites that "substrate coated with a layer of one or more silanes". In addition, the claim recites "having a multilayered structure comprising substrates coated with a layer of one or more silanes and a layer of one or more polymer". Additionally, (2) as pointed out by Applicants, the silane coupling agent being intermingled with the layer consisting of hydrated aluminum oxide or a combination of said oxide and ceria is optional by indicating that the "coupling agent may be intermingled with...".

In response to applicant's arguments against the references individually, in particular, Schauer et al. and Sollman et al., one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of

references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With reference to Schauer et al., it is to be noted that said reference clearly disclose, (1) coating pigment particles with LCST polymers to stabilize the dispersibility of said pigment particles in liquid media, varnishes and the like, (2) further, disclose that LCST coating on particulate or non-particulate substrates can serve a protective coating for underlying coatings containing UV stabilizers, chromophores or luminiscent components (column 4, lines 17-23), therefore, implying that the LCST coating is applied onto other coatings, (3) additionally, Schauer et al. make it clear that LCST polymer coating can improve the compatibility of the particles with the vehicle or matrix and that such coating provides additional protection against mechanical damage under shear loads such as occur during extrusion, (4) and finally, Schauer et al. disclose that LCST polymers are particularly suitable for enveloping particles entirely without influencing the color of the particles themselves.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pegah Parvini/
Examiner, Art Unit 1793

/Anthony J Green/
Primary Examiner, Art Unit 1793